

WHAT IS CLAIMED IS:

*Sub A1*

1. A network transaction system in which a customer's terminal station and a plurality of bank systems are interconnected via networks, the plurality of bank systems including a first bank system and a second bank system, the customer having an existing bank account in the second bank system and attempting to newly open a bank account in the first bank system, the network transaction system comprising:

customer processing means disposed at the terminal station for applying for a new bank account by supplying the first bank system with existing account information descriptive of the existing bank account owned by the customer in the second bank system;

first bank processing means disposed at the first bank system for requesting the second bank system to make a confirmation of the existing bank account while forwarding the existing account information received from the customer processing means to the second bank system over the networks, and for opening the applied new bank account based on a confirmation response message from the second bank system describing a result of the confirmation of the existing bank account; and

second bank processing means disposed at the second bank system for confirming the existing bank account upon request from said first bank processing means,

and for returning the confirmation response message to said first bank processing means to report the result of the confirmation of the existing bank account.

5           2. A network transaction system according to claim 1, wherein said networks include

an open network which interconnects the terminal station and the first bank, and

10          an inter-bank network which interconnects the plurality of bank systems.

3. A network transaction system according to claim 1, wherein

15          said customer processing means supplies the first bank with account application information that is necessary for opening the new bank account, and

20          said account application information includes at least the customer's name, address, company, bank identification code of the first bank, and desired password for the new bank account.

4. A network transaction system according to claim 1, wherein the existing account information includes at least bank identification code of the second bank system, account number of the existing bank account, and password of the existing bank account.

*Sub A 2*

5. A network transaction system according to claim 1, wherein said customer processing means comprises

(a1) customer key generation means for generating a customer secret key and a customer public key,

5 (a2) customer encryption means for assembling an account application message to be sent to said first bank processing means by

10 encrypting account application information necessary for opening the new bank account by using the customer secret key and further by using a first bank public key,

15 encrypting the customer public key and a second bank identification code by using the first bank public key,

20 encrypting the existing account information by using the customer secret key and further by using a second bank public key, and

25 combining the encrypted account application information, the encrypted customer public key, the encrypted second bank identification code, and the encrypted existing account information, and

(a3) customer decryption means for obtaining new account acknowledgment information by decrypting an application response message received from said first bank processing means by using the customer secret key and further by using the first bank public key.

6. A network transaction system according to  
claim 5, wherein said first bank processing means  
comprises

(b1) first bank key generation means for  
5 generating a first bank secret key and the first bank  
public key,

(b2) first bank decryption means for  
obtaining the customer public key and the second  
bank identification code by decrypting the encrypted  
10 customer public key and the encrypted second bank  
identification code, as part of the account application  
message received from said customer processing means, by  
using the first bank public key,

obtaining the account application information by  
15 decrypting the encrypted account application information,  
as part of the account application message received from  
said customer processing means, by using the first bank  
secret key and further by using the obtained customer  
public key, and

20 obtaining the result of the confirmation of the  
existing bank account by decrypting the confirmation  
response message from the second bank processing means by  
using the second bank public key, and

(b3) first bank encryption means for  
25 encrypting confirmation request information by  
using the second bank public key, and  
assembling a confirmation request message to be

sent to said second bank processing means by combining the encrypted confirmation request information and the encrypted existing account information received from the customer processing means, wherein the confirmation request information includes a first bank identification code, the customer public key, and a confirmation request number.

7. A network transaction system according to  
10 claim 6, wherein said second bank processing means  
comprises

(c1) second bank key generation means for generating a second bank secret key and the second bank public key,

15 (c2) second bank decryption means for

obtaining the first bank identification code, the customer public key, and the confirmation request number by decrypting the encrypted confirmation request information by using the second bank secret key and further by using the first bank public key, and

obtaining the existing account information by decrypting twice the encrypted existing account information by using the second bank secret key and further by using the above-obtained customer public key,

25 and

(c3) second bank encryption means for encrypting the result of the confirmation of the existing bank

account, the second bank identification code, and the confirmation request number by using the second bank secret key, and thereby assembling the confirmation response message to be sent to said first bank processing means.

8. A network transaction system in which a customer's terminal station and a bank system are interconnected via a network, the customer having an existing bank account in the bank system and attempting to open a new bank account in the same bank system, the network transaction system comprising:

customer processing means disposed at the terminal station for applying for a new bank account by supplying the bank system with existing account information descriptive of the existing bank account owned by the customer in the bank system; and

bank processing means disposed at the bank system for making a confirmation of the existing bank account, and for opening the applied new bank account based on the result of the confirmation of the existing bank account.

9. A terminal station, linked to a plurality of bank systems, for use by a customer who wishes to newly open a bank account in a first bank system and has an existing bank account in a second bank system, the first and second bank systems being among the plurality of bank

systems, the terminal station comprising processing means for sending, along with account application information necessary for opening a bank account in the first bank system, existing account information pertaining to the existing bank account owned by the customer in order to allow the first bank to request the second bank to authenticate the customer's identity.

10           10. The terminal station according to claim 9, wherein said processing means creates an account application message to be sent to the first bank system, the account application message being a combination of data items obtained by

15           encrypting the account application information by using a customer secret key and further by a first bank public key,

               encrypting a customer public key and a second bank identification code by using the first bank public key,

20           and

               encrypting the existing account information by using the customer secret key and further by using a second bank public key.

25           11. A user authentication method to allow a customer to use cyberspace banking services via an open network, which services are provided by a plurality of

banks interconnected via an inter-bank network, the plurality of bank systems including a first bank and a second bank, the customer having an existing bank account in the second bank and newly issuing an account 5 application for a bank account to the first bank, the user authentication method comprising the steps of:

(a) sending account application information and existing account information from the customer to the first bank, wherein the account application information is 10 information necessary for opening a new bank account in the first bank and the existing account information is information descriptive of the existing bank account owned by the customer in the second bank;

(b) forwarding the existing account information 15 from the first bank to the second bank for requesting the second bank system to make a confirmation of the existing bank account;

(c) confirming the existing bank account in the second bank; and

20 (d) deciding whether to accept or to reject the account application, based on the result of the confirmation performed in said step (c).

12. A user authentication method to allow a 25 customer to use cyberspace banking services via an open network, which services are provided by a plurality of banks interconnected via an inter-bank network, the

plurality of bank systems including a first bank and a second bank, the customer having an existing bank account in the second bank and newly issuing an account application for a bank account in the first bank, the user  
5 authentication method comprising the steps of:

(a) being supplied by the customer with first information which is obtained by encrypting account application information necessary for opening a new bank account by using a customer secret key and further by a  
10 first bank public key;

(b) being supplied by the customer with second information which is obtained by encrypting a customer public key and a second bank identification code by using the first bank public key;

15 (c) being supplied by the customer with third information which is obtained by encrypting existing account information by using the customer secret key and further by using a second bank public key, wherein the existing account information is descriptive of the  
20 existing bank account owned by the customer in the second bank;

(d) decrypting the second information by using the first bank secret key to obtain the customer public key and the second bank identification code;

25 (e) decrypting the first information by using the first bank secret key and further by using the decrypted customer public key to obtain the account application

information;

(f) encrypting the second bank identification code, the customer public key, and confirmation request information by using the second bank public key to obtain  
5 fourth information;

(g) sending the third information and the fourth information to the second bank, thereby requesting the second bank to authenticate the customer based on the existing account information contained in the third  
10 information;

(h) receiving a response from the second bank that reports the result of the authentication; and

(i) deciding whether to accept or to reject the account application from the customer.

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13. A user authentication method to allow a customer to use cyberspace banking services via an open network, which are provided by a bank where the customer has an existing bank account, the user authentication  
20 method comprising the steps of:

(a) being supplied by the customer with first information which is produced by encrypting account application information and existing account information by using a customer secret key and further by a bank  
25 public key, wherein the account application information is information necessary for opening a new bank account and the existing account information is descriptive of the

existing bank account owned by the customer in the bank;

(b) being supplied by the customer with second information which is produced by encrypting a customer public key by using the bank public key;

5 (c) decrypting the second information by using the bank secret key, thereby obtaining the customer public key;

10 (d) decrypting the first information by using the bank secret key and further by using the customer public key obtained in the step (c), thereby extracting the account application information and the existing account information;

15 (e) authenticating the customer's identity, based on the existing account information extracted in the step (d); and

(f) deciding whether to accept or to reject the account application from the customer, based on the result of the authentication performed in the step (e).

20 14. A user authentication method to allow a customer to use cyberspace banking services via an open network, which are provided by a bank where the customer has an existing bank account, the user authentication method comprising the steps of:

25 (a) being supplied by the customer with first information which is produced by encrypting service request information and existing account information by

using a customer secret key and further by a bank public key, wherein the service request information specifies service contents pertaining to the existing bank account and the existing account information is descriptive of the

5 existing bank account owned by the customer in the bank;

(b) being supplied by the customer with second information which is produced by encrypting a customer public key by using the bank public key;

10 (c) decrypting the second information by using the bank secret key to obtain the customer public key;

(d) decrypting the first information by using the bank secret key and further by using the customer public key obtained in the step (c) so as to extract the service request information and the existing account information;

15 (e) authenticating the customer's identity, based on the existing account information extracted in the step (d); and

20 (f) deciding whether to provide or not the service contents to the customer, based on the result of the authentication performed in the step (e).